Stem Cell and Regenerative Medicine- High School Summer Research Internship

Grant Award Details

Stem Cell and Regenerative Medicine- High School Summer Research Internship

Grant Type: SPARK

Grant Number: EDUC3-13168

Project Objective: This SPARK program provides 8-week summer research internships for high school students in regenerative medicine laboratories at Stanford University (The Stanford Institutes of Medicine Summer Research Program (SIMR)). Students, who will be recruited from diverse backgrounds, including low socio-economic backgrounds and students from underrepresented ethnic backgrounds, will receive mentoring, participate in workshops and seminars, and engage in with patients and local communities through a coordinated outreach effort. At the conclusion of their eight week internships, students will present their research in a culminating SPARK conference.

Investigator:

Name:	Paul Utz
Institution:	Stanford University
Type:	PI

Award Value: $508,750

Status: Pre-Active

Grant Application Details

Application Title: Stem Cell and Regenerative Medicine- High School Summer Research Internship

Public Abstract:

The proposed research internship will strengthen the future of stem cell research in California by providing California high school students the exciting opportunity to experience hands-on research in various areas within stem cell biology and regenerative medicine. The internship aims to recruit a diverse group of participants from underrepresented ethnicities and/or low socioeconomic backgrounds. Participating students will be mentored directly by graduate students, post-doctoral fellows and Faculty within various stem cell related research labs. During the first part of the research internship, there will be an overview of the program, review of biology basics, an introduction to the stem cell field, and a research bootcamp on lab skills and techniques. Students will also be taught foundational concepts of the stem cell field through the opportunity to attend a lecture series course in stem cell biology taught by graduate students. Additional lectures will be taught by Faculty and will include learning practical skills such as how to read a journal article, write an abstract and design a research poster. Students will attend talks by speakers from diverse backgrounds who will also share their educational pathway and life story and will also hear talks about various public health issues and diseases that disproportionately have an effect on underrepresented communities to increase awareness. In addition, students will have the opportunity to attend special seminars regarding the college application process and graduate school/medical school educational paths by current undergrad, MD and PhD students to better prepare the students for the future. In addition, students will participate in some patient engagement and community service activities to enrich the internship experience. The student interns will have several opportunities to present their research projects including presentation at lab meetings as well as presentation of their research poster at an end of summer poster session which is open to the community. The goal of the internship is for the students to be well trained in essential laboratory techniques and to motivate them to reinforce their excitement for stem cell and regenerative medicine research in the future. Another goal is that the participating students will disseminate their excitement for stem cell and regenerative medicine to their families, classmates in high school, and local communities especially through the end of summer poster session. The discoveries that these students will contribute to in their labs will further help to promote stem cell research in California and throughout the world. The ultimate goal of our proposed summer internship program is to train a diverse group of students who will be the next generation of future regenerative medicine and stem cell scientists which is critically needed.

Statement of Benefit to California:

There is not only a great need to increase the pipeline of students entering the biomedical research field but also a compelling need to promote ethnic and socioeconomic diversity in the biomedical and life science workforce. Providing California high school students an opportunity to participate in this new field of stem cell research will allow them to explore biomedical research as a possible career and to create a pipeline of future Californians to serve as regenerative medicine and stem cell biologists. Even before the Gold Rush, the State of California was considered a place to seek adventure and to make important discoveries. The regenerative medicine and stem cell field requires visionary leaders and organizations such as CIRM to fund them and to promote new ideas and discoveries. There is no better way to promote science, math and engineering education in California than by giving California students the opportunity to participate in hands-on research at the University level. These young trainees will benefit other Californians by making important discoveries that will improve the health of other Californians – and for that matter the whole world.
